

REMARKS

Reconsideration and withdrawal of the rejections of the application are respectfully requested in view of the amendments and remarks herewith, which place the application into condition for allowance or into better condition for appeal.

Pursuant to 37 C.F.R. 1.17(a) and 1.136(a), a one-month extension of time, i.e. up to and including March 18, 2003, is respectfully requested. Enclosed herewith is a check for \$110.00 in payment of the fee thereof. Any deficiency or overpayment in this fee, or any other charge occasioned by this paper, may be charged or credited to Deposit Account No. 50-0320.

Claims 1-4, 7-12, 15, 19, 22-24, 29, 31 and 33 are pending in this application. Claims 1, 7-12, 15, 19, 24, 29 and 31 are amended; claims 5, 6, 13, 14, 20, 21, 25-28, 30 and 32 are cancelled; and new claim 3 is added, without prejudice. Applicant reserves the right to pursue cancelled subject matter in a divisional application.

No new matter is added.

It is submitted that the claims, herewith and as originally presented, are patentably distinct over the prior art cited by the Examiner, and that these claims are in full compliance with the requirements of 35 U.S.C. §112. The amendments of and additions to the claims, and the remarks, as presented herein, are not made for purposes of patentability within the meaning of 35 U.S.C. §§§§ 101, 102, 103 or 112. Rather, these amendments, additions and remarks are made simply for clarification and to round out the scope of protection to which Applicant is entitled. Support is found throughout the specification and from the pending claims.

Claims 2, 3, 8-11 and 30-32 were rejected under 35 U.S.C. §112, second paragraph, for allegedly being indefinite; claims 1-15, 19-24 and 29-32 were rejected under 35 U.S.C. §112, first paragraph, as allegedly lacking written description; and claims 1-15, 19-24 and 29-32 were

rejected under 35 U.S.C. §112, first paragraph, for allegedly lacking enablement. The rejections are traversed.

The amendments to the claims, without prejudice, render the instant rejections moot. Consequently, reconsideration and withdrawal of the Section 112, first and second paragraph, rejections are respectfully requested.

Claims 1, 3, 5-6, 12-15, 19, 21-24 and 29 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Flipse et al. The rejection is traversed.

The amendments to the claims, without prejudice, render the rejection moot. More specifically, the document fails to disclose and enable each and every element of the instantly claimed invention.

Consequently, reconsideration and withdrawal of the Section 102 rejection are respectfully requested.

Claims 1-15, 19-24 and 29-32 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 6,196,226 to Ek et al., taken with Visser et al. and Safford et al., in view of Kossman et al. The rejection is traversed.

The Examiner is respectfully reminded that in order to ground an obviousness rejection, there must be some teaching which would have provided the necessary incentive or motivation for modifying the reference's teaching. *In re Laskowski*, 12 U.S.P.Q. 2d 1397, 1399 (Fed. Cir. 1989); *In re Obukowitz*, 27 U.S.P.Q. 2d 1063 (B.P.A.I. 1993). Further, "obvious to try" is not the standard under 35 U.S.C. §103. *In re Fine*, 5 U.S.P.Q. 2d 1596, 1599 (Fed. Cir. 1988). And as stated by the Court in *In re Fritch*, 23 U.S.P.Q. 2d 1780, 1783-1784 (Fed. Cir. 1992): "The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggests the desirability of the modification."

Also, the Examiner is respectfully reminded that for the Section 103 rejection to be proper, both the suggestion of the claimed invention and the expectation of success must be founded in the prior art, and not Applicants' disclosure. *In re Dow*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988).

The requisite suggestion or motivation is lacking in the documents relied upon in the Office Action. More specifically, Ek et al. relate to the cloning of the BEII gene from potato and the preparation of transgenic potato plants with decreased BEII gene expression. And Ek et al. relate to the preparation of potato plants having a decreased BEII gene expression and a decreased expression of the GBSSII gene. Ek et al. do not, however, teach, suggest or motivate a skilled artisan to practice potato plants having a decreased GBSSI activity and a decreased BEI activity. In particular, the combination GBSSI + BEI is not taught or suggested in the portions of Ek et al. cited by the Examiner.

The secondary references cited in the Final Office Action do not remedy the inherent deficiencies in Ek et al. Applicant respectfully asserts that isoforms of the branching enzymes (BEI and BEII) are encoded by distinct genes. And BEI and BEII differ from each other in their physiological functions. Further, and contrary to the inhibition of BEI gene expression, inhibition of BEII expression in potato plants leads to the synthesis of starch with increased amylose content. Thus, the requisite suggestion or motivation to combine the cited documents is absent.

Further, the requisite expectation of success is also lacking in the documents cited by the Examiner. Additionally, it is also well-settled that picking and choosing portions from four disparate references in order to formulate an obviousness rejection is impermissible. Further still, "obvious to try" is not the standard upon which an obviousness rejection should be based. *See In re Fine*. And as "obvious to try" would be the only standard that would lend the Section

103 rejection any viability, the rejection must fail as a matter of law. Therefore, applying the law to the instant facts, the rejection is fatally defective and should be removed.

Consequently, reconsideration and withdrawal of the Section 103(a) rejection is believed to be in order and such actions are respectfully requested.

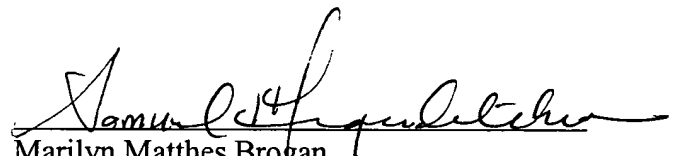
CONCLUSION

In view of the remarks and amendments herewith, the application is in condition for allowance or in better condition for appeal. Favorable reconsideration of the application and prompt issuance of a Notice of Allowance are earnestly solicited.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

1. (Amended Twice) A transgenic potato plant cell which is genetically modified, the genetic modification leading to a decrease in the activity of one or more granule-bound starch synthase I (GBSSI) proteins occurring endogenously in the potato plant cell and to a decrease in the activity of one or more branching enzyme [BE] I (BEI) proteins occurring endogenously in the potato plant cell, in comparison to corresponding non genetically modified potato plant cells of wild-type plants, wherein said genetic modification comprises the introduction of one or more foreign nucleic acid molecules, in which said foreign nucleic acid molecules are selected from the group consisting of:

(a) DNA molecules which encode at least one antisense RNA which brings about a decrease in the expression of endogenous genes encoding GBSSI and/or BEI proteins;
and

(b) DNA molecules which lead, via a cosuppression effect, to a decrease in the expression of endogenous genes encoding GBSSI and/or BEI proteins.

7. (Amended Twice) The transgenic potato plant cell as claimed in claim [1] 6, which [contains] synthesizes a modified starch having an amylopectin content of at least 90% and in comparison to starch from plant cells of corresponding potato plants of the waxy phenotype [has] having an increased phosphate content.

8. (Amended Twice) A process for the production of a transgenic potato plant cell which synthesizes a modified starch, in which a potato plant cell is genetically modified by the introduction of one or more foreign nucleic acid molecules, wherein the presence and/or

expression of the one or more foreign nucleic acid molecules leads to a decrease in the activity of at least one GBSSI protein and to a decrease in the activity of at least one [BE] BEI protein, in which said foreign nucleic acid molecules are selected from the group consisting of:

(a) DNA molecules which encode at least one antisense RNA which brings about a decrease in the expression of endogenous genes encoding GBSSI and/or BEI proteins;

and

(b) DNA molecules which lead, via a cosuppression effect, to a decrease in the expression of endogenous genes encoding GBSSI and/or BEI proteins.

9. (Amended Twice) [A process for the production of a transgenic plant cell whose starch has an amylopectin content of at least 90% and an increased phosphate content in comparison to starch from corresponding plants of the waxy phenotype, in which a plant cell is genetically modified by the introduction of one or more foreign nucleic acid molecules, wherein the presence and/or expression of the one or more foreign nucleic acid molecules leads to a decrease in the activity of at least one GBSSI protein and to a decrease in the activity of at least one BE protein] A process according to claim 8, wherein the modified potato starch has an amylopectin content of at least 90% and an increased phosphate content in comparison to starch from corresponding potato plants of the waxy phenotype.

10. (Amended Twice) A process for the production of a transgenic potato plant which synthesizes a modified starch, in which:

(a) a potato plant cell is genetically modified by the introduction of one or more foreign nucleic acid molecules wherein the presence and/or expression of the one or more foreign nucleic acid molecules leads to a decrease in the activity of at least one GBSSI protein and to a decrease in the activity of at least one [BE] BEI protein[;] , wherein said nucleic acid molecules are selected from the group consisting of

(i) DNA molecules which encode at least one antisense RNA which brings about a decrease in the expression of endogenous genes encoding GBSSI and/or BEI proteins and

(ii) DNA molecules which lead, via a cosuppression effect, to a decrease in the expression of endogenous genes encoding GBSSI and/or BEI proteins;

(b) a potato plant is regenerated from the cell produced according to step a); and,

(c) if appropriate, further potato plants are produced from the plants produced according to step b).

11. (Amended Twice) [A process for the production of a transgenic plant whose starch has an amylopectin content of at least 90% and an increased phosphate content in comparison to starch from corresponding plants of the waxy phenotype, in which

a) a plant cell is genetically modified by the introduction of one or more foreign nucleic acid molecules, wherein the presence and/or expression of the one or more foreign nucleic acid molecules leads to a decrease in the activity of at least one GBSSI protein and to a decrease in the activity of at least one BE protein;

- b) a plant is regenerated from the cell produced according to step a); and,
- c) if appropriate, further plants are produced from the plants produced according to step b)]

The process according to claim 10, wherein the modified potato starch has an amylopectin content of at least 90% and an increased phosphate content in comparison to starch from corresponding potato plants of the waxy phenotype.

12. (Amended) A transgenic potato plant containing potato plant cells as claimed in claim 1.

15. (Amended Twice) [Reproductive] A reproductive material of a potato plant as claimed in claim 12, containing potato plant cells as claimed in claim 1.

19. (Amended Twice) [A composition containing at least one of the nucleic acid molecules as defined in any one of claims 2 to 5 or 30 to 32, which is suitable for the production of transgenic plant cells as claimed in claim 1] A composition containing at least one of the nucleic acid molecules as defined in claim 1, which is suitable for the production of transgenic potato plant cells as claimed in claim 1, the presence of said nucleic acid molecules in said potato plant cells leading to a decrease in the activity of GBSSI proteins occurring endogenously in the potato plant cell and to a decrease in the activity of BEI proteins occurring endogenously in the potato plant cell.

24. (Amended) A transgenic potato plant cell containing a composition as claimed in claim 19.

29. (Amended Twice) [A process for the production of a starch from a transgenic plant, plant cell, or plant reproductive material, wherein the transgenic plant, plant cell or plant reproductive material comprises genetic modification leading to a decrease in the activity of one or more GBSSI proteins occurring endogenously in the transgenic plant, plant cell or plant reproductive material and to a decrease in the activity of one or more BE proteins occurring endogenously in the transgenic plant, plant cell or plant reproductive material, in comparison to corresponding non genetically modified, wild-type plants, plant cells or plant reproductive material, comprising extracting the starch from the plant, plant cell or plant reproductive material] A process for the production of a modified potato starch from a transgenic potato plant, comprising extracting the starch from the potato plant according to claim 12.

31. (Amended) [The process of claim 30, wherein the transgenic plant synthesizes a modified starch having an increased phosphate content and/or a decreased gelatinization temperature, in comparison with starch from corresponding plants of the waxy phenotype] The process of claim 29, wherein the modified potato starch has an amylopectin content of at least 90% and an increased phosphate content in comparison with starch from corresponding potato plants of the waxy phenotype.

33. (New) The process of claim 31, wherein the modified potato starch has a decreased gelatinization temperature in comparison with starch from corresponding potato plants of the waxy phenotype.